

REMARKS

Claims 1-20 are being nationalized from International Application No. PCT/GB00/03141. Claims 1-20 have been amended in order to place them in better condition for examination by the United States Patent and Trademark Office. The amendments to claims 1-20 do not have the affect of narrowing their scope, and were not made for a reason related to patentability. The specification has also been amended to correct inadvertent typographical errors. No new matter has been introduced by these amendments.

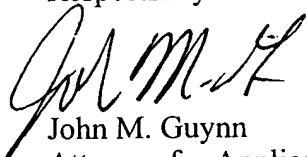
New claims 21-50 have been added in order for Applicant to more fully claim what he regards as his invention. New claims 21-23 are derived from original claims 1 and 18, which contained an "optionally" clause and which have been amended to remove this clause. The optional components and their preferred concentration range are positively recited in claims 21-23. New claims 24-50 are directed to "[a] glass composition suitable for use in treating or preventing dental caries" and are derived from subject matter recited in the use and method claims. As such, claims 24-50 are directed to the same inventive concept as claims 1-23 and should be examined together with claims 1-23 since this is a national phase application of an international application.

In the event that the Examiner finds any remaining impediment to the prompt allowance of this application, which could be clarified by a telephonic interview, or which is susceptible to being overcome by means of an Examiner's Amendment, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

Dated this 14th day of February 2002.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please refer to the Marked-Up Specification.

IN THE CLAIMS:

Claims 1-20 have been amended as follows:

1. (Amended) Use of a glass composition for the treatment and/or prevention of dental caries, the glass composition [having] comprising the general empirical formula given below, expressed in weight percent of [the] each element:

P: 16-24

F: 5-30

O: 20-40

and at least one of Na, K, Li or Al in an amount up to a total of 40 wt.% [and optionally, up to 5 wt.% of boron and/or silica].

2. (Amended) Use of a glass composition as claimed in claim 1, wherein at least one of a fluoride [and/or] or an oxide [oxides] of at least one glass [modifiers are] modifier is included in the glass composition.

3. (Amended) Use of a glass composition as claimed in claim 2, wherein the fluoride [ions are included in compounds] of at least one glass modifier is selected from the group consisting of aluminum fluoride, sodium hydrogen fluoride, sodium fluoride, calcium fluoride, magnesium fluoride, [and] potassium fluoride, and mixtures thereof.

4. (Amended) Use of a glass composition as claimed in claim [1,] 2, [or 3] the glass composition further comprising one or more other glass modifiers.

5. (Amended) Use of a glass composition as claimed in claim 4, wherein the one or more other glass modifiers [are] comprise at least one of calcium, magnesium [and/or] or zinc.

6. (Amended) Use of a glass composition as claimed in claim 4, [or claim 5] wherein the one or more other glass modifiers are included in an amount of up to 10 wt.%.

7. (Amended) Use of a glass composition as claimed in [any one of the preceding claims where in] claim 1, wherein the glass composition includes a combined weight percent of at least 16% of sodium and potassium.

8. (Amended) Use of a glass composition as claimed in [any one of the preceding claims] claim 1, wherein aluminum is included in the glass composition in an amount of at least 3 wt.%.

9. (Amended) Use of a glass composition as claimed in [any one of the preceding claims] claim 1, wherein at least 25 wt.% oxygen is included in the glass composition.

10. (Amended) Use of a glass composition as claimed in [any one of the preceding claims] claim 1, wherein the phosphorus is included in an amount of 18-23 wt.%.

11. (Amended) Use of a glass composition as claimed in [any one of the preceding claims] claim 1, wherein at least 12 wt.% of fluoride is included in the glass composition.

12. (Amended) Use of a glass composition as claimed in claim 1, wherein the glass composition provides a fluoride retention of at least 45% at a melting temperature of 650° over 45 minutes.

13. (Amended) Use of a glass composition as claimed in claim 1, wherein the glass composition has a solubility in [the] a range of 5-10,000.

14. (Amended) Use of a glass composition as claimed in [13] 1, wherein the glass composition is provided in powder form and has a solubility in a range of 5 to 100.

15. (Amended) Use of a glass composition as claimed in claim 14, wherein the [powdered] glass composition in powder form is incorporated in a dental restorative material.

16. (Amended) Use of a glass composition as claimed in claim 15, wherein the dental restorative [materials] material is selected from the group consisting of [a] dental [amalgam] amalgams, [a] fissure sealant [resin or a] resins, and composite bonding [material] materials.

17. (Amended) Use of a glass composition as claimed in [any one of claims] claim 1, [to 13] wherein the glass composition is attached to a tooth using dental cement.

18. (Amended) A method for the treatment and/or prevention of dental caries, the method comprising attaching a glass composition to a tooth to provide a fluoride releasing device, the glass composition [having] comprising the general empirical formula given below, expressed in weight percent of [the] each element:

P: 16-24

F: 5-30

O: 20-40

and at least one of Na, K, Li or Al in an amount up to a total of 40 wt.% [and, optionally, up to 5 wt.% of a boron and/or silica].

19. (Amended) A method for the treatment and/or prevention of dental caries as claimed in claim 18, further comprising attaching the glass composition to the tooth using dental cement.

20. (Amended) A method for the treatment and/or prevention of dental caries as claimed in claim 18, wherein the glass composition is provided in powder form and incorporated into a dental restorative material.

New claims 21-50 have been added as follows:

21. (New) Use of a glass composition as claimed in claim 1, wherein the glass composition further includes at least one of boron or silicon.

22. (New) Use of a glass composition as claimed in claim 21, wherein the boron or silicon are included in an amount up to 5 wt.%

23. (New) A method for the treatment and/or prevention of dental caries as claimed in claim 18, wherein the glass composition further includes at least one of boron or silicon in an amount up to 5 wt.%

24. (New) A glass composition suitable for use in treating or preventing dental caries comprising the general empirical formula given below, expressed in weight percent of each element:

P: 16-24

F: 5-30

O: 20-40

and at least one of Na, K, Li or Al in an amount up to a total of 40% by weight.

25. (New) A glass composition as claimed in claim 24, wherein the glass composition is formed using at least one of a fluoride or an oxide of at least one glass modifier.

26. (New) A glass composition as claimed in claim 25, wherein the fluoride of at least one glass modifier comprises at least one of aluminum fluoride, sodium hydrogen fluoride, sodium fluoride, calcium fluoride, magnesium fluoride, or potassium fluoride.

27. (New) A glass composition as claimed in claim 24, further comprising at least one glass modifier.

28. (New) A glass composition as claimed in claim 27, wherein the glass modifier comprises at least one of calcium, magnesium or zinc.

29. (New) A glass composition as claimed in claim 27, wherein the glass modifier is included in an amount of up to 10% by weight.

30. (New) A glass composition as claimed in claim 24, wherein the glass composition comprises at least one of sodium or potassium in a combined amount of at least 16% by weight.

31. (New) A glass composition as claimed in claim 24, wherein the glass composition comprises at least one of sodium or potassium in a combined amount in a range of 19-26% by weight.

32. (New) A glass composition as claimed in claim 24, wherein the glass composition comprises aluminum in an amount of at least 3% by weight.

33. (New) A glass composition as claimed in claim 24, wherein the glass composition comprises aluminum in an amount in a range of 4-10% by weight.

34. (New) A glass composition as claimed in claim 24, wherein the oxygen is included in an amount of at least 25% by weight.

35. (New) A glass composition as claimed in claim 24, wherein the oxygen is included in an amount in a range of 25-35% by weight.

36. (New) A glass composition as claimed in claim 24, wherein the phosphorus is included in an amount of at least 16% by weight.

37. (New) A glass composition as claimed in claim 24, wherein the phosphorus is included in an amount in a range of 17-23% by weight.

38. (New) A glass composition as claimed in claim 24, wherein the fluoride is included in an amount of at least 12% by weight.

39. (New) A glass composition as claimed in claim 24, wherein the fluoride is included in an amount in a range of 15-25% by weight.

40. (New) A glass composition as claimed in claim 24, wherein the glass composition provides a fluoride retention of at least 45% at a melting temperature of 650° over 45 minutes.

41. (New) A glass composition as claimed in claim 24, wherein the glass composition provides a fluoride retention of at least 60% at a melting temperature of 650° over 45 minutes.

42. (New) A glass composition as claimed in claim 24, wherein the glass composition has a solubility in a range of 5 to 10,000.

43. (New) A glass composition as claimed in claim 24, wherein the glass composition has a solubility in a range of 100 to 1100.

44. (New) A glass composition as claimed in claim 24, wherein the glass composition is in powder form and has a solubility in a range of 5 to 100.

45. (New) A glass composition as claimed in claim 44, wherein the glass composition in powder form comprises a portion of a dental restorative material.

46. (New) A glass composition as claimed in claim 45, wherein the dental restorative material is selected from the group consisting of dental amalgams, fissure sealant resins, and composite bonding materials.

47. (New) A glass composition as claimed in claim 24, wherein the glass composition is sized and configured for attachment to a tooth.

48. (New) A glass composition as claimed in claim 24, further including at least one of boron or silicon.

49. (New) A glass composition as claimed in claim 48, wherein the boron or silicon are included in an amount up to 5 wt.%

50. (New) A glass composition as claimed in claim 24, wherein the glass composition has a solubility rate so as to continuously release fluoride for a period of 12-36 months when attached to a person's tooth.